

# OPENNESS IN EDUCATION: TEACHER PERSPECTIVESTHROUGH CONCEPT MAPPING

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# **Openness in Education: Teacher Perspectives through Concept Mapping**

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30 November-02 December, 2015



# Background to the Study

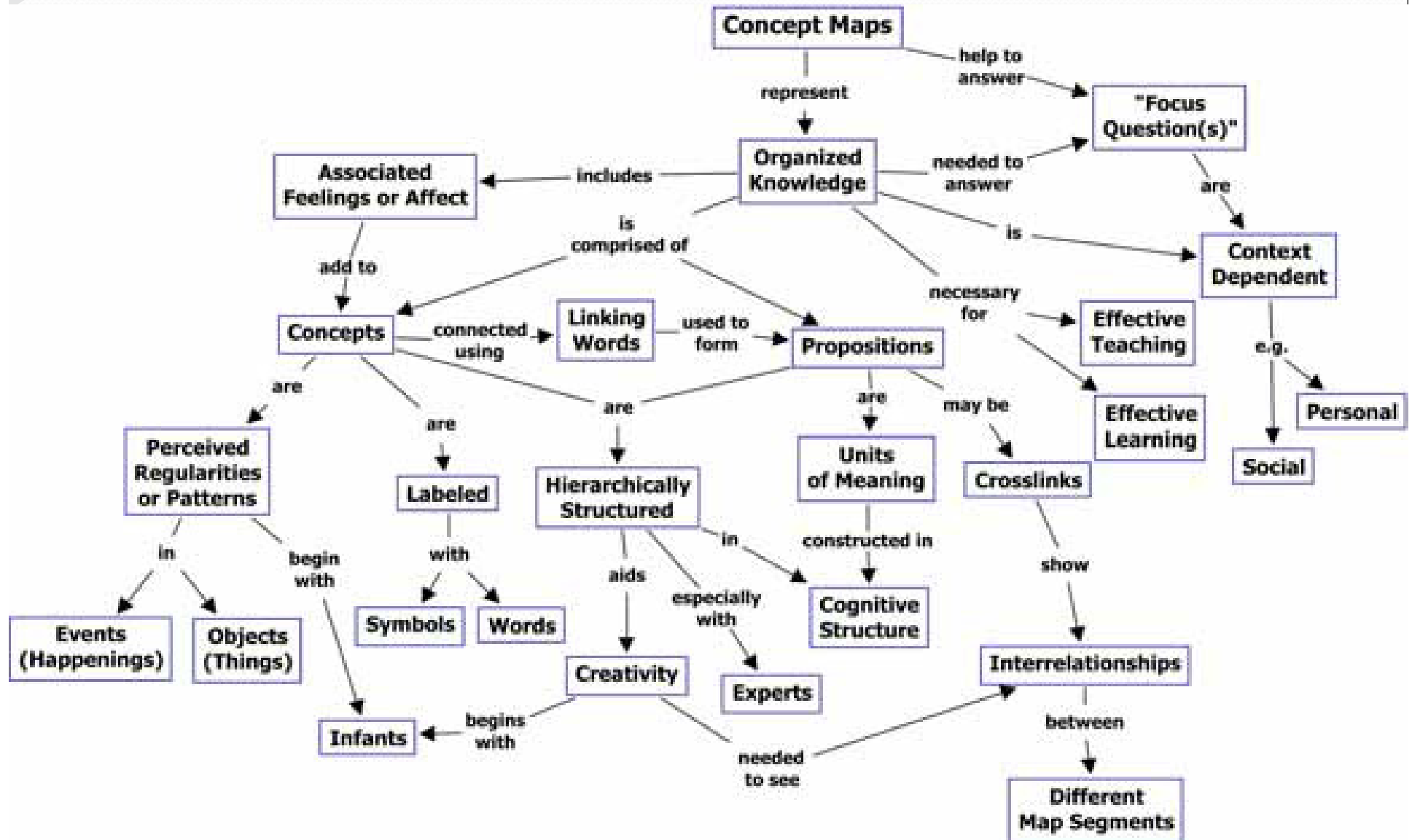
- ROER4D Project:
  - **Impact of integrating OER in Teacher Education at OUSL**
- **A Design-based Research (DBR) Approach** - Design and implementation of a professional development intervention program in several stages for teachers on the integration of OER in teaching and learning.
- **Stage 1 – Pre-Intervention Survey**
  - An investigation to discover the initial perspectives of teachers on “Openness in education” as captured by their concept maps.



# Openness in Education through OER

- OER contributes to the teaching-learning processes by,
  - providing free and open access to teaching, learning and research materials
  - promoting a more open, participatory, collaborative, creative and sharing culture among individuals.
- Such 'Openness' in education through OER will depend on 'changing' the pedagogical perceptions and practices of educators.
- Supporting teachers to understand and reflect on their changing perspectives in relation to 'openness in education' will enable them to move towards more 'open educational practices' (Ehlers, 2011).

# Concept mapping as a Pedagogical Tool



# Research Questions

- How do the knowledge structures of concept maps reveal teacher perspectives on “openness in education”?
- What are the teacher perspectives on “openness in education” as illustrated by their concept maps?
- How can concept mapping be used to support teachers to reflect on their changing perspectives on “openness in education”?



# Methodology

- **Research Design:** Survey
- **Participants:**
  - 230 Teachers representing 9 provinces of the country
  - (*Colombo, Kandy, Matara, Anuradhapura, Batticaloa, Jaffna, Badulla, Kurunegala and Ratnapura*).
  - Representation from different ethnicities and medium of study (*Sinhala/Tamil/English*)
- **Data collection strategies:**
  - Questionnaire survey
  - Concept mapping
- **Data Analysis:** Quantitative & Qualitative

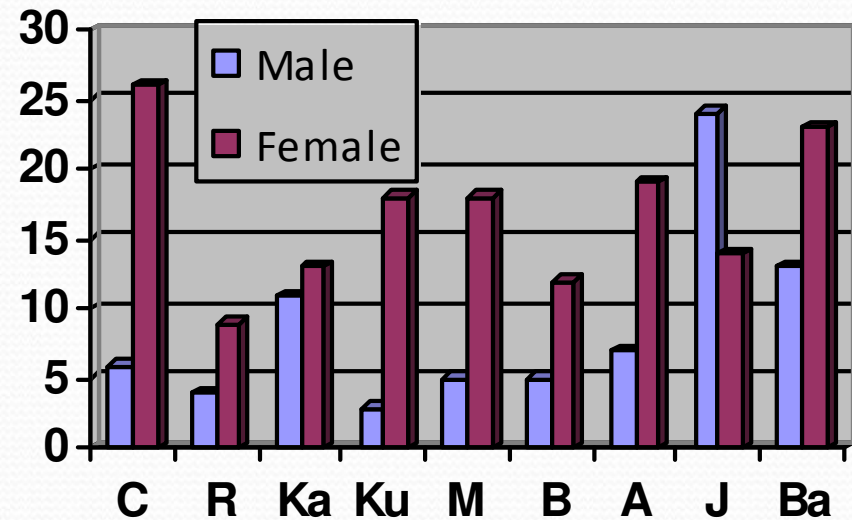
# Procedure

- Creating concept maps on participants' current understanding and thinking in relation to **“Openness in Education”**.
- An initial briefing about concept mapping strategy
- Draw their concept maps in any preferred language (E/S/T)
- **Structural analysis** of CMs:
  - **Chains, Spokes and Networks** (Kinchin, 2008; Kinchin et al., 2000).
- These were sub-categorized into:
  - **simple/complex chains; simple/complex spokes; simple/complex nets.**
- **Content analysis** of CMs
  - systematic coding and categorizing of words and phrases.



# Participants

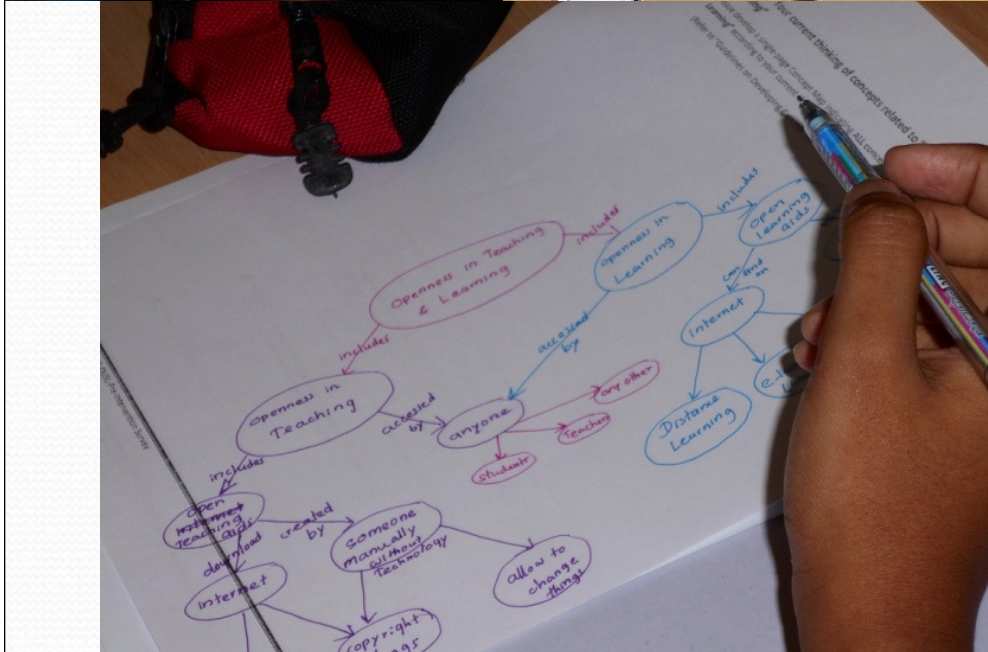
## Participant Distribution - Centre-wise: N = 230



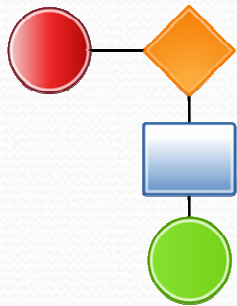
## Participants' Background Information:

Gender	Acad. Qual.	Prof. Exp.	Heard of OER before
M-33./9%	1 <sup>st</sup> Degree –	< 5 - 75.7%	Yes – 10%
F- 66.1%	100%	6 -15 - 22.6%	No – 90%
	PostGrad –	> 15 - 1.7%	
	16.1%		

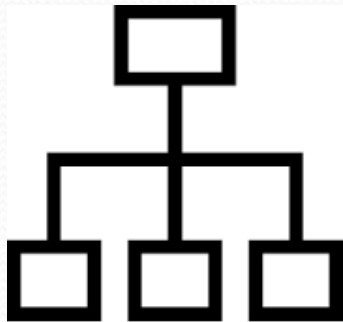
# Data Collection



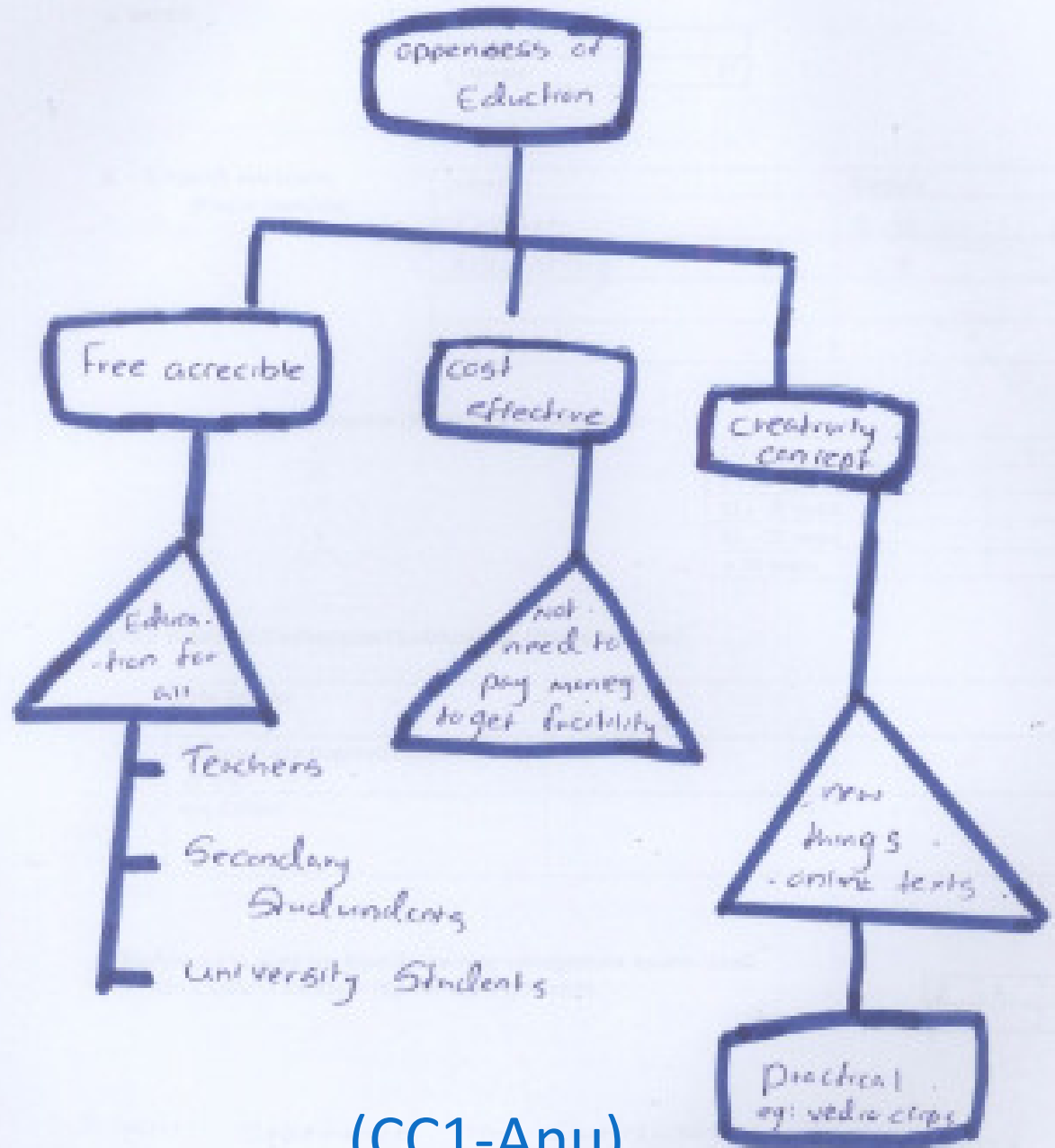
## Sample CMs



Chain- Simple



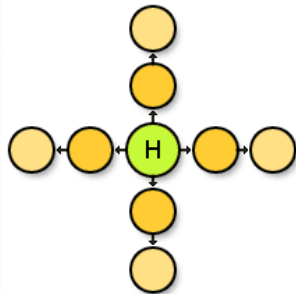
Chain-Complex



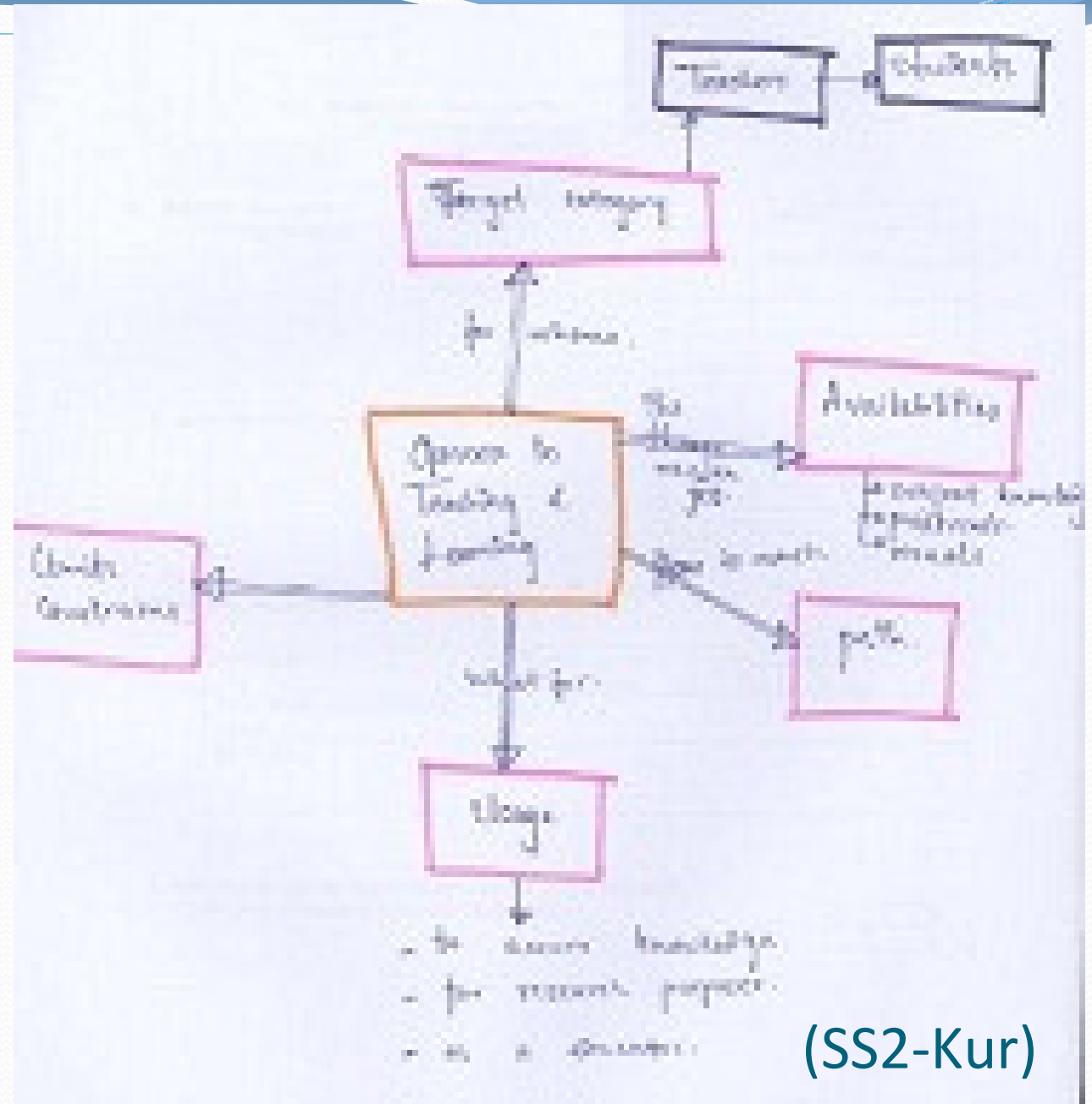
(CC1-Anu)



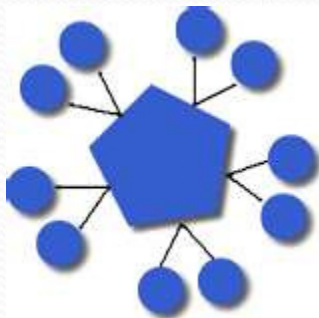
# Sample CMs



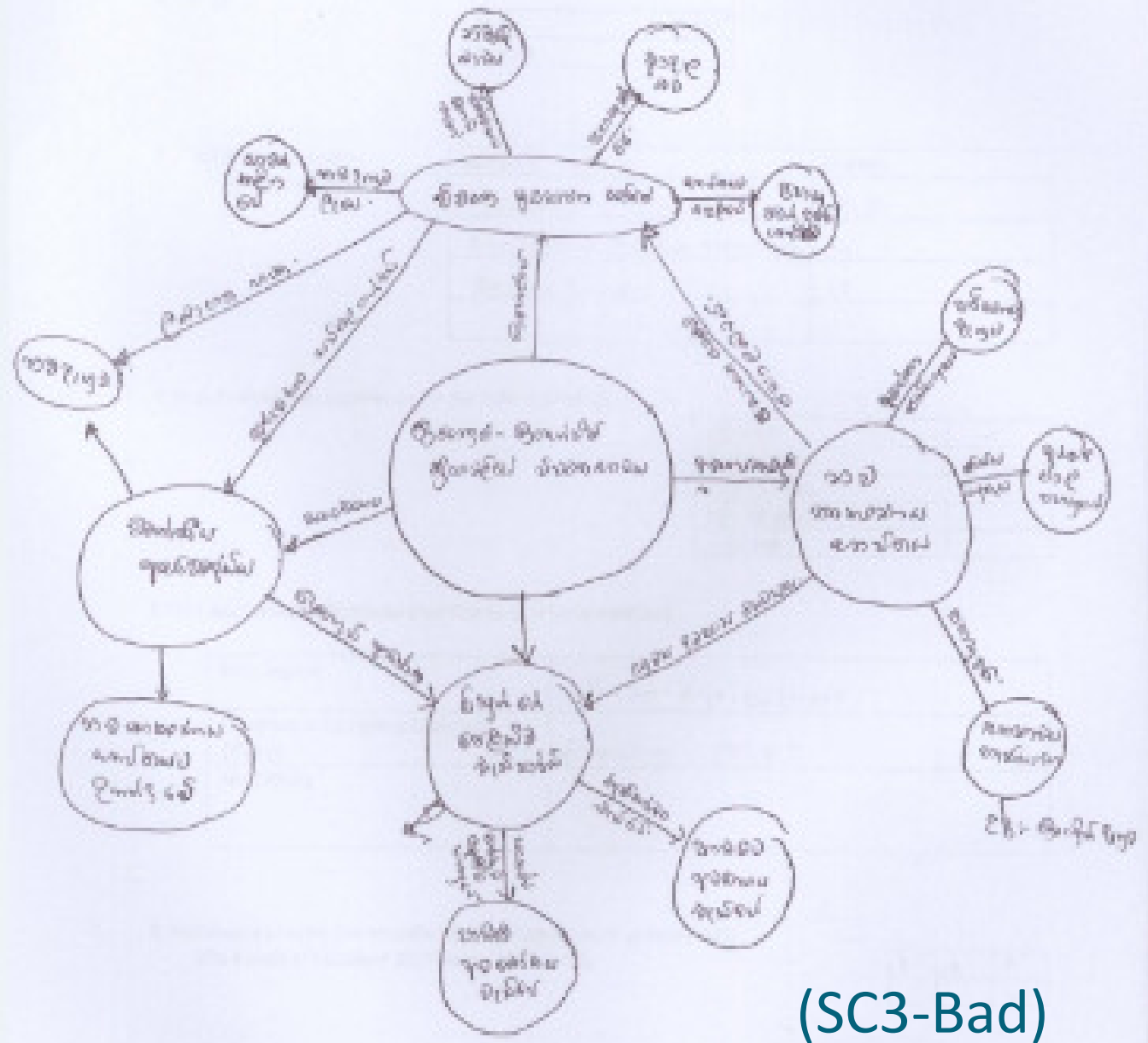
## Spoke-Simple



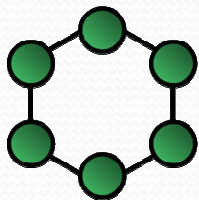
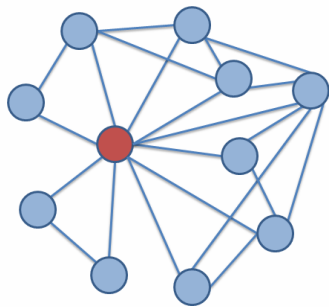
# Sample CMs



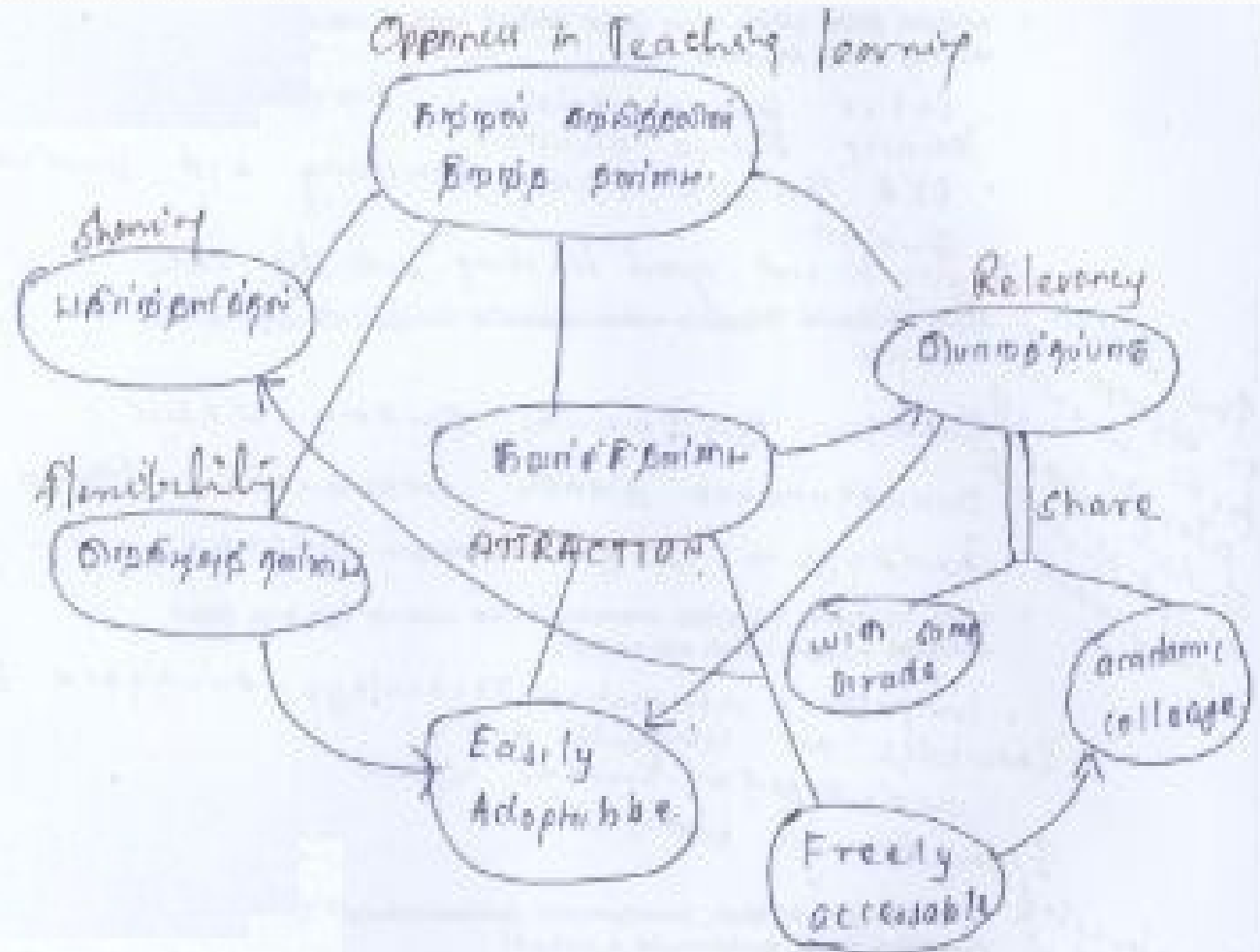
## Spoke-Complex



# Sample CMs



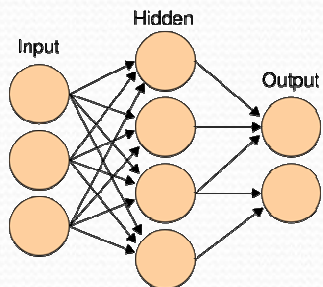
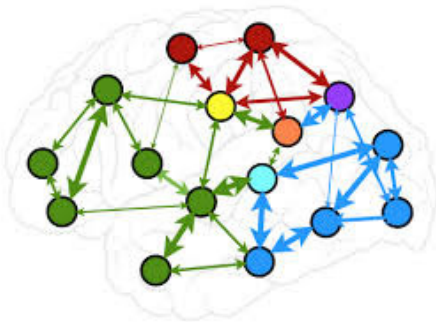
**Net-Simple**



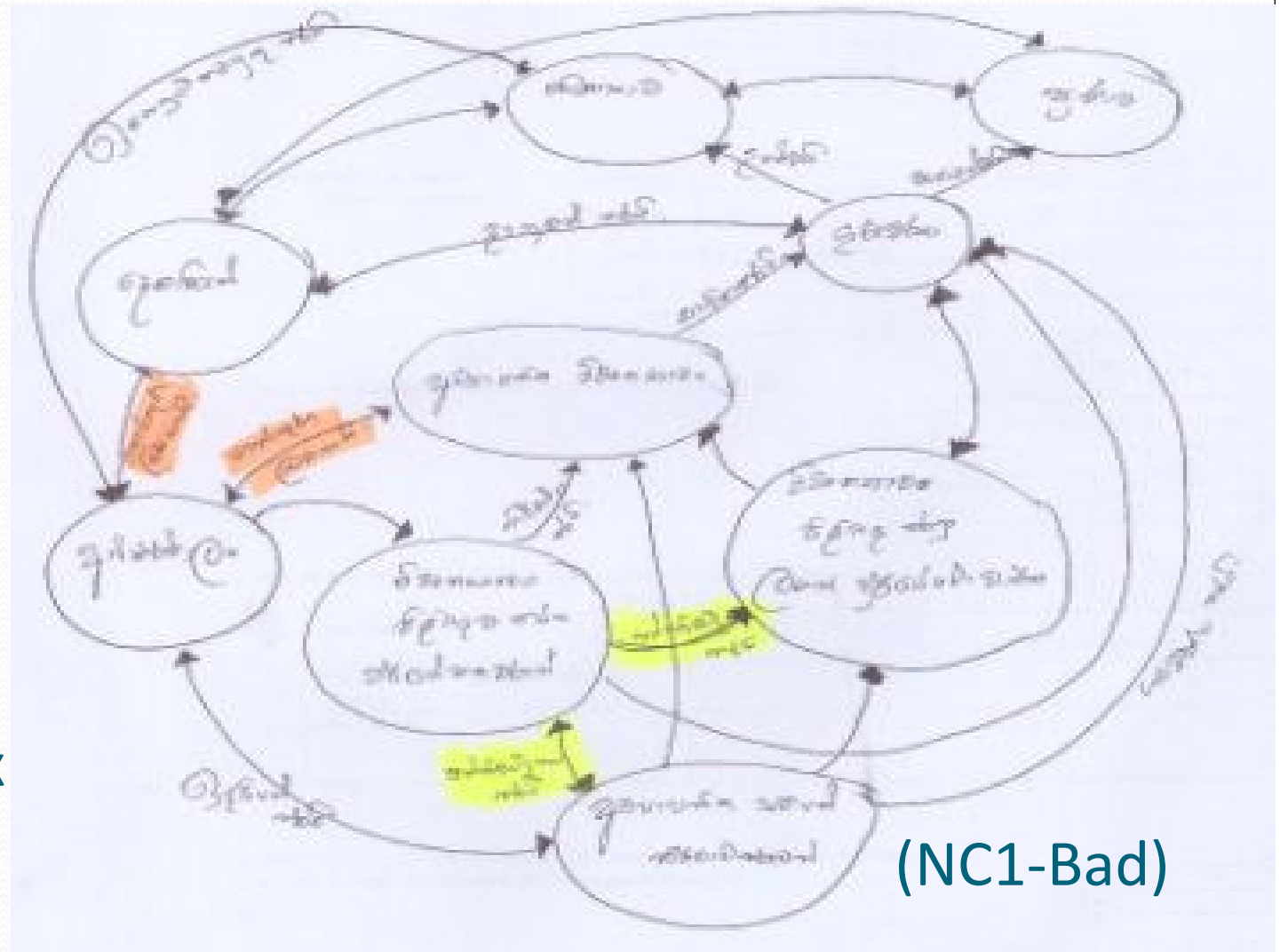
**(NS1-Jaf)**



# Sample CMs



## Net-Complex



# Results & Discussion

## – Structural Analysis of CMs

Centre	Chain Type (No. of CMs)		Spoke Type (No. of CMs)		Network Type (No. of CMs)		Total (No. Of CMs)
	Simple (CS)	Complex (CC)	Simple (SS)	Complex (SC)	Simple (NS)	Complex (NC)	
Anuradhapura (Anu)	-	3	6	9	7	1	26
Badulla (Bad)	-	1	-	7	7	2	17
Batticaloa (Bat)	-	4	6	21	5	-	36
Colombo (Col)	-	4	-	18	7	1	30
Jaffna (Jaf)	-	9	3	22	4	-	38
Kandy (Kan)	-	1	3	18	2	-	24
Kurunegala (Kur)	-	2	3	13	2	-	20
Matara (Mat)	-	2	1	14	5	1	23
Ratnapura (Rat)	-	-	2	6	1	-	09
Total	00	26	24	128	40	5	223
Percentage %	00	11.7	10.8	57.4	17.9	2.2	100%

**Categorization of teachers' concept maps – Centre-wise**

# Findings – Structural Analysis

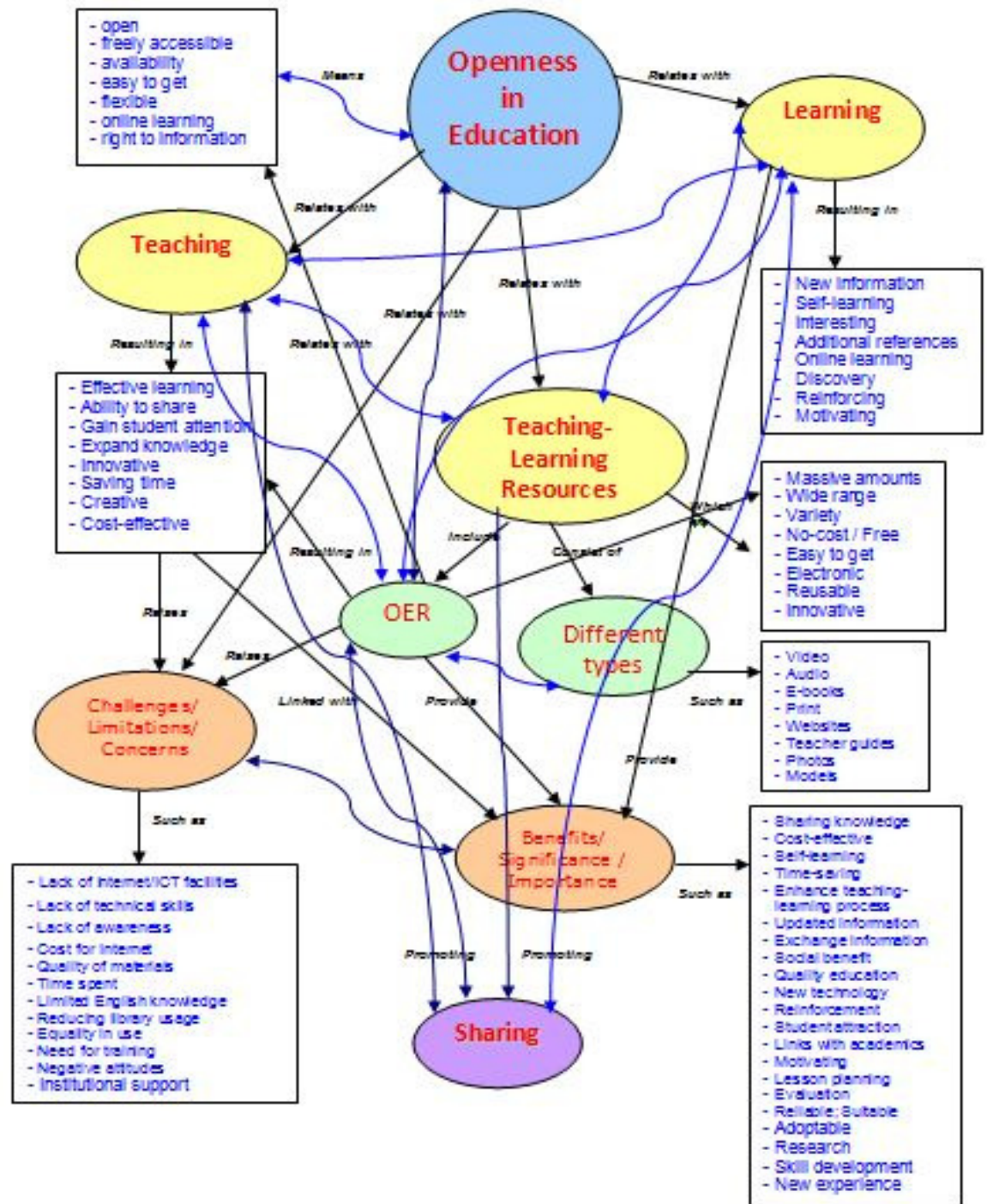
- Highly integrated complex concept maps with linking phrases were very limited, revealing the narrow prior understanding of teachers.
- Seemingly complex structures, yet having ill-defined concepts lacking explanatory phrases suggested only superficial knowledge and limited thinking.
- Very few network structures constructed in a meaningful manner with explanatory linking words/phrases, indicated more focused thinking and organization of concepts on 'openness in education'.
- This is a positive feature implying scope for expansion of thinking and further understanding over time.



# Results & Discussion – Content Analysis of CMs

## A Summary Concept Map of teachers' concept maps

30 November, 2015



# Findings – Content Analysis

- Even though the concept of OER was novel to the teachers, their perspectives on ‘sharing’ and ‘openness’ in education and its relevance to teaching and learning were quite optimistic.
- Despite the fact that a majority of concept maps lacked explanatory phrases and focus of thinking, this revelation is indicative of an overall positive perspective of the teachers.



# Conclusions & Implications

- The concept mapping exercise was a useful strategy to **visualize teachers' understandings** around “**openness in education**”.
- As a ‘**graphical tool for organizing and representing knowledge**’ (Novak and Cañas , 2008), and as a ‘**relational device**’ that outline relationships between different ideas (Davies, 2010), it helped teachers **organize thinking and reflect on their understandings**.
- Since **a concept map is never finished** (Novak and Cañas, 2006) teachers are able to update their maps with the addition of new concepts, as their understandings expand and deepen.
- The comparison of different versions of concept maps will reveal **incremental developments** in their understandings over time.
- Concept mapping strategy can be thus used to support teachers to **reflect on their changing perspectives and practices**.



# Acknowledgements

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